

programming.

76. To address satellite compatibility with ATV, we must first recognize that satellites transmit in a different operating environment, one with bandwidth requirements and interference problems different from those experienced in terrestrial broadcasting. It is neither necessary nor practicable to restrict satellite ATV transmission to the standards set for terrestrial ATV.²²³ Members of the Satellite Broadcasting and Communications Association (SBCA) are actively participating in PS/WP4. This SBCA representation has helped the Advisory Committee to devise a plan for establishing minimum performance criteria for satellite applications that coordinates with the overall timetable for recommendation of a system.²²⁴ We encourage such efforts and believe that, contrary to some suggestions,²²⁵ they obviate the need for further Commission action at this time. With respect to ATV compatibility with VCRs, we agree with ATSC that it is premature to propose specific VCR standards at this time.²²⁶ We encourage the Advisory Committee, through PS/WP4, to address this question at the appropriate time.

C. Closed Captioning

77. We agree with NCI²²⁷ that the Television Decoder Circuitry Act of 1990 (Decoder Act)²²⁸ and Congressional intent underlying that statute²²⁹

²²³ Satellite distribution need not use the same transmission format as terrestrial ATV in order for terrestrial broadcast stations to receive and retransmit such signals, provided that the same originating format is used. With respect to potential DBS-ATV transmission, we note that PS/WP4 is monitoring the efforts of EIA Committee R4.1 which is working to define an ATV receiver interface, including a satellite interface. We encourage the efforts of PS/WP4 in that regard.

²²⁴ Charter of PS/WP4 Working Group on Satellite ATV Testing (formerly the SBCA Working Group on Satellite Testing of ATV) at 1; Fifth Interim Report at 5.

²²⁵ Scientific-Atlanta Reply Comments at 1. Cf. COMSAT Comments at 3.

²²⁶ T3/S2 Report, supra, at 7, 9.

²²⁷ NCI Comments at 1-2. See also ATSC Ex Parte Filing at 1 (dated Feb. 5, 1992) (ATSC Ex Parte) (ATV system should allow service to visually and hearing impaired).

²²⁸ 47 U.S.C. § 303(u), 330(b). The Decoder Act requires that television receivers with 13 inch or larger screens that are manufactured in or imported into the United States contain built-in decoder circuitry for closed captioning display. It also provides that "[a]s new video technology is developed, the Commission shall . . . ensure that closed-captioning service continues to be available to consumers."

require that closed captioning services continue to be available during the transition from NTSC to ATV and beyond. In April 1991, we adopted rules implementing the Decoder Act for NTSC receivers.²³⁰ At that time, we promised to "continue to monitor the plans of high definition television transmission systems to ensure that closed-caption capability will continue to be available in the future."²³¹ We direct the Advisory Committee, in recommending an ATV standard, to take proper account of Decoder Act requirements, both as to closed captioning of simulcast or other HDTV program transmissions, and to the general closed captioning capability of ATV receivers.²³² Once an ATV system is selected, we plan to initiate a proceeding to adopt appropriate changes to our closed captioning rules.

D. Audio Advances: Extensibility and an ATV Standard

78. As stated above, extensibility, or in general, the ability of an ATV system to adapt to future improvements without creating obsolescence, is one of the ten selection criteria which the Advisory Committee is currently applying. The Advisory Committee is in the process of refining the concept of extensibility and relating it to each of the proponent systems. ATSC, through an ex parte filing, presents a concrete application of extensibility. ATSC states that recent advances in multi-channel audio coding technology have reduced the data rate required for five-channel audio nearly to that required for two independent audio channels. ATSC believes that an ATV system should

²²⁹ Both the Senate and House Reports cite high definition television as an example of a new technology to which closed captioning requirements would continue to apply, albeit by different means. S. Rep. No. 101-393, 101st Cong., 2d Sess. at 9-10 (1990); H.R. Rep. No. 101-767, 101st Cong., 2d Sess. at 14 (1990).

²³⁰ Amendment of Part 15 of the Commission's Rules to Implement the Provisions of the Television Decoder Circuitry Act of 1990, 6 FCC Rcd 2419 (1991), recon. denied, 7 FCC Rcd 2279 (1992).

²³¹ Closed Caption Order, 6 FCC Rcd at 2433.

²³² 47 CFR 73.682(a) (22) provides that closed captioning of NTSC programs may be transmitted on line 21 of the vertical blanking interval of the television broadcast signal. However, HDTV systems are not expected to have such a vertical blanking interval. Rather, HDTV systems likely would use data blocks to convey ancillary data that could include closed captioning information. It appears that for simulcast programming, closed captioning information could be inserted into a data block of "upconverted" NTSC programming, and on line 21 of "downconverted" HDTV programming.

NCI suggests various enhancements to closed captioning capability, including flexible screen placement. Flexible screen placement is already a requirement in 47 CFR § 15.119(d) (1). Television receivers sold after July 1993 must meet this and other standards set forth in our rules. See also Closed Caption Order, 6 FCC Rcd at 2440. We expect any ATV system selected would, at a minimum, maintain such existing closed captioning standards.

able to leave open the number and type of digital audio and data services included in an ATV channel, and allow data to be allocated to digital audio and data as needed. It believes that this would permit the addition of future new digital services, with older receivers ignoring new data types. It recommends that an ATV system be able to deliver five-channel audio.²³³ ATSC states that all ATV receivers would need to decode the provided service (which could vary from one to five channels) into the number of loudspeaker channels to be used.²³⁴

79. While the focus until now has been on the video aspects of ATV, audio is another essential component of this new technology. ATSC appears to recommend a practical means of achieving extensibility in the audio component of an ATV system selected as a standard. We thus direct the Advisory Committee, consistent with our overall implementation plan, to address any new audio developments such as those discussed by ATSC, as well as ATSC proposals for flexible audio and data, in its selection of an ATV system. We also ask the Advisory Committee to consider any analogous instances of extensibility that arise.

E. New Developments

80. The First Report and Order stated that it was possible that a new fully digital system could be conceived that would require additional development time. We promised, with the assistance of the Advisory Committee, to review carefully, but quickly, any such new developments in 1992. We stated that if we found any new systems sufficiently developed to be tested, we would supplement the testing schedule accordingly.²³⁵ Some commenters have suggested alternative systems or components thereof that they believe we should consider for adoption of a national standard.²³⁶ The Advisory Committee has conducted a review of new developments. It has concluded that there are a number of techniques, still in the developmental stage, for the

²³³ ATSC Ex Parte at 1. Five-channel audio provides for a right, center and left front channel plus a right and a left rear channel (or surround channel). If a composite signal is efficiently generated with these five audio channels, the data rate needs to be only slightly greater than what would be required for two independent, high-quality audio signals, according to ATSC. Blonder, on the other hand, argues that surround sound is unnecessary. Blonder Comments at 1-2.

²³⁴ ATSC Ex Parte at 1. Thus, a five-channel service could be decoded into mono for a low-cost mono receiver.

²³⁵ First Report and Order, 5 FCC Rcd at 5629.

²³⁶ Schreiber Further Reply at 3; (noting that Coded Orthogonal Frequency Division Multiplex (COFDM) (used in European DAB experiments) will be tested in the United Kingdom this Spring and that Columbia University is experimenting with joint source and channel coding and the use of multiresolution encoders); FIT Comments at 3 & n.5 (FIT system, using orthogonality in wave polarizations, can best be evaluated by over the air testing).

compression of video signals. However, it has found that none is sufficiently concrete to be contemporaneously tested with the systems now being judged. It thus finds that the five proponent ATV systems now under consideration represent the state of available technology.²³⁷ We seek comment on these findings. We also request information on any other new developments (1) that "offer important new benefits" and (2) which are in a "sufficiently concrete state of development to be considered with existing systems".²³⁸

VIII. CONCLUSION

81. For the reasons given above, we find that the rules and policies we adopt herein will further the public interest by helping to bring the technological developments of advanced television service to the American public in an expeditious and non-disruptive fashion. We also seek comment on additional issues critical to our implementation plan.

IX. PROCEDURAL MATTERS

A. Notice and Comment Provisions

82. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before July 17, 1992, and reply comments on or before August 17, 1992. To file formally in this proceeding, you must file an original plus five copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the Dockets Reference Room of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554.

B. Ex Parte

83. This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission rules. See generally 47 C.F.R. §§ 1.1202, 1.203, and 1.206(a).

C. Regulatory Flexibility Act Statement

²³⁷ Fifth Interim Report at 20 & Appendix F.

²³⁸ First Report and Order, 5 FCC Rcd at 5629. We are prepared to recommend to the Advisory Committee supplemental testing for any system that meets these criteria. We agree, however, with EIA/ATV Committee, see EIA/ATV Committee Reply Comments at 16-17, that permitting consumers to comment on over-the-air picture quality of all proposed ATV systems before a final decision on a standard is made, as FIT suggests, see FIT Comments at 4 n. 5, will unreasonably delay implementation of ATV.

84. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the proposals suggested in this document. The IRFA is set forth in Appendix A. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments on the rest of this decision, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. A Final Regulatory Flexibility Analysis Statement is contained in Appendix B. The Secretary shall send a copy of this Second Report and Order/Further Notice of Proposed Rule Making, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act. Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. Section 601 et seq. (1981).

X. ORDERING CLAUSE

85. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4 and 303 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154 and 303, this Second Report and Order/Further Notice of Proposed Rule Making IS ADOPTED.

86. For further information regarding this proceeding, contact Gina Harrison, Legal Branch, Policy and Rules Division, Mass Media Bureau (202) 632-7792, Gordon Godfrey, Engineering Branch, Policy and Rules Division, Mass Media Bureau (202) 632-9660, or Alan Stillwell, Office of Engineering and Technology (202) 653-8162.

FEDERAL COMMUNICATIONS COMMISSION

Donna R. Searcy
Donna R. Searcy *wzc*
Secretary

APPENDIX A

Initial Regulatory Flexibility Statement

I. Reason for Action:

1. This action is taken to invite further comment on outstanding questions affecting implementation of advanced television (ATV) service in this country.

II. Objectives of the Action:

2. It is intended that the comments engendered through this action will resolve some of the issues surrounding the introduction of ATV service in this United States. Further comment is sought through this decision in order to establish a comprehensive, reliable record on which to base our decisions regarding ATV. The record established from comments filed in response to this decision, as well as other Commission decisions, and the combined efforts of the Commission, the affected industries, the Advisory Committee on Advanced Television Service, and the ATV testing process, will lead to implementation of ATV in the most harmonious fashion and to selection of the most desirable ATV system.

III. Legal Basis:

3. Authority for this action may be found in 47 U.S.C. §§ 154 and 303.

IV. Reporting, recordkeeping and other compliance requirements:

4. Such requirements are not proposed in this phase of the proceeding, but may be raised and comment sought, in future decisions in this proceeding.

V. Federal rules which overlap, duplicate or conflict with these rules:

5. There are no rules which would overlap, duplicate or conflict with these rules.

VI. Description, potential impact and number of small entities involved:

6. There are approximately 1,495 licensed commercial and educational UHF and VHF television stations, approximately 4,833 licensed UHF and VHF translator stations, and approximately 1,210 licensed UHF and VHF low-power television stations, who could be affected by the actions ultimately taken in this proceeding. Those who are initially eligible for ATV channels (full-service television broadcast station licensees, permittees authorized as of the date of adoption of the Notice of Proposed Rule Making (Notice) in this proceeding, and all parties with applications for a construction permit on file as of the date of adoption of the Notice ultimately awarded full-service television broadcast station licenses), who choose to apply for a channel,

would be affected by the allotment and assignment procedures selected on the basis of the record resulting from this proceeding. In this decision, we propose that, later in the process, a table of allotments will be issued and public comment sought. Applicants will be allowed a period to negotiate channel assignments. If the parties cannot negotiate a pairing plan, assignments will be made on a first come, first served basis, with those applying at the same time would receive a channel based on random ranking of preferences.

7. If there is insufficient spectrum to accommodate all initially eligible parties, we would rank them as follows: (1) licensees and permittees with constructed facilities having program test authority, (2) all other permittees, and (3) applicants. In the case of insufficient spectrum to accommodate all licensees and constructed permittees in a community, we would apply some other method of deciding who would be assigned an ATV channel.

8. After initial assignments are made, ATV channels would then be assigned to: (1) parties ultimately awarded a permit based on an allotment petition pending as of the date of the Notice, regardless of whether or not the permittee had filed the original allotment petition, (2) parties awarded waivers of the current freeze on television broadcast applications in major markets and who are subsequently awarded an NTSC authorization, and (3) any other parties authorized to construct NTSC facilities in the interim period after adoption of the Notice. After this point, eligibility will be unrestricted.

9. We also propose to suspend the dual network prohibition rule, which prevents a network from simultaneously operating more than one network of television stations in identical or overlapping areas. Networks would thus be allowed to operate both an NTSC and an ATV network during the transition to ATV. In this regard, we also seek comment on whether the suspension should extend to circumstances where the two network feeds in a market go to different stations, and if so, on whether steps should be taken to ensure that a network cannot favor one station over the other, to the ultimate harm of one of the stations.

10. We seek comment on whether we should require LPTV and translator stations, at the time of "conversion" of full-service broadcast stations to ATV, to cease broadcasting in NTSC and broadcast only in ATV. By imposing a requirement only at the time of conversion to ATV, we will allow LPTVs ample opportunity to plan their transition to ATV.

11. We solicit comment on the results of an Advisory Committee review concluding that there are a number of techniques, still in the developmental stage, for the compression of video signals, but that none are apparent which are sufficiently concrete to be contemporaneously tested with the systems now being judged. It thus found that the five proponent ATV systems now under consideration represent the state of available technology. We also request information on any other new developments (1) that "offer important new benefits" and (2) which are in a "sufficiently concrete state of development

to be considered with existing systems." Various small businesses could be affected by Commission action resulting from the response generated from the request for comment.

12. Station operators will be affected by our tentative decision to set the date for full conversion to ATV at 15 years from the date an ATV system is selected, or a final Table of ATV Allotments is effective, whichever is later. We believe that this date should permit the majority of consumers who purchase NTSC receivers prior to the introduction of ATV to get full use of their NTSC equipment, and also provide time for consumer acceptance of ATV to drive down the cost of ATV receivers from initial price levels, this spurring higher volume consumer ATV receiver sales. We are seeking comment, particularly from consumer electronics manufacturers and professional broadcast equipment suppliers on our proposed timetable. We are especially interested in detailed comments on the timing of widespread availability of ATV receivers and necessary ATV broadcast equipment, and on their projected prices. We also invite comment, particularly from system proponents and those parties with consumer manufacturing expertise, on the projected costs for ATV receivers during this 15-year period, and on the likely availability and cost of ATV downconverters. We seek comment on whether the possible availability of downconverters should influence the manner by which we assess ATV acceptance, and whether the availability of reasonably priced downconverters should lessen concerns about the premature obsolescence of NTSC sets in a household.

13. Broadcasters will further be affected by our tentative decision to require 100 percent simulcasting of the programming on the ATV channel no later than four years after the five-year ATV application/construction period has passed -- nine years after a standard becomes effective. We believe that this timeframe will afford broadcasters sufficient time to explore the potential of ATV and that by that point, ATV should have established itself, and ATV receiver penetration and revenues from ATV programming should be increasing. We do, however, seek comment on several approaches to simulcasting that would provide broadcasters with appropriate flexibility while requiring simulcasting. Broadcasters would, of course, be respectively affected, if after a review of the comments received in response to this Order/ENPRM, we choose a 100 percent simulcast requirement more or less stringent than the four year proposal. We also tentatively conclude that, from the outset, upconverted NTSC programming on broadcasters' second 6 MHz channel must be simulcast programming. Because we are awarding broadcasters a second 6 MHz channel on an interim basis to permit them to make a transition to ATV, we see no reason to permit use of that second channel for non-ATV programs that differ from those broadcast on the associated NTSC channel. Under this approach, non-simulcast programming on the ATV channel would have to be programming that takes full advantage of the technical capabilities of the ATV mode, for example: (1) programs produced in film and directly converted to the ATV mode, (2) programs originally produced on tape in the ATV mode, and (3) programs produced in the ATV mode live. We seek comment on this approach and on whether any other types of programs could take full advantage of ATV capabilities.

VII. Any significant alternatives minimizing the impact on small entities consistent with stated objectives:

14. In offering proposals for public comment in all facets of this proceeding, we have tried to select alternatives that would cause the least disruption to the least number of parties. This concern is reflected in the proposals adopted and discussed in the Final Regulatory Flexibility Act Statement in Appendix B. Several commenters suggest alternatives to our proposals or variations of our proposals which we reject for this reason. Public Television, for example, asks that we give any type of full-service broadcaster, including noncommercial broadcasters, permittees, or applicants priority over any other type in allotting a second 6 MHz channel. Several commenters ask that we grant priority status to low-power service stations. We also decline these suggestions.

15. Despite our tentative decision to set a 15-year date for full conversion to ATV, in recognition of the many factors which could develop making it difficult to accurately predict how ATV implementation will occur, we propose to review, in 1998, the propriety of the conversion date. This review should alleviate concerns about premature termination of NTSC, and should also leave room for adjustment if ATV implementation should proceed more or less swiftly than anticipated. By 1998, we should have gained considerable practical experience concerning the transition to ATV. We recognize that the development of downconverters for the reception of ATV programming on NTSC receivers may accelerate conversion, obviating the need for consumers to purchase new ATV receivers. Thus, the speed with which such converters may become available will also impact our determination of an appropriate conversion date. Also, by 1998, we should have better data regarding the development of set-top converters and other factors relevant to determination of a timetable for recapture of NTSC reversion spectrum. Therefore, our decision to review the 15-year conversion date in 1998 should ensure minimal financial harm to broadcast licensees.

16. In proposing a 100 percent simulcasting requirement no later than four years after the five-year ATV initial application/construction period, we seek to assuage any unduly burdensome effect on broadcasters by inviting comment on proposed approaches to simulcasting which would afford broadcasters flexibility in developing ATV technology. We realize that there may be a need for some initial flexibility in programming the ATV channel to permit the development of equipment and programming for this new technology and to attract consumer interest. Therefore, we suggest one alternative that would have us phase in our simulcasting requirement, permitting broadcasters to make adjustments in a gradual fashion. This staggered approach would allow broadcasters complete flexibility in programming the ATV channel during the first two years after the initial five-year application construction period has passed. However, as ATV implementation progresses, ATV receiver penetration should increase and the need for regulatory intervention to protect consumer investment and ensure our ability to reclaim the second 6 MHz channel will become more acute. Thus, starting two years after the initial application/construction deadline for existing broadcasters has passed --

seven years from the time a Report and Order adopting an ATV standard becomes effective -- we would require broadcasters to simulcast 50 percent of each day's programming. We believe that this 50 percent requirement would continue to afford broadcasters some flexibility as they implement full ATV production capabilities, but would also prompt them to prepare for complete conversion to ATV by ensuring that they do not use the second 6 MHz channel to develop a separate program service. The 50 percent simulcasting requirement would be increased to a 100 percent requirement within another two years at a point nine years after an ATV standard becomes effective.

17. Another approach to providing broadcasters with flexibility in developing ATV technology would involve a requirement that broadcasters air the same programming on the ATV channel, but permit flexibility with respect to time of airing or material included. We would broadly define "same time" at which simulcast programs are required to air, e.g., as the same 24-hour period. "Same program" could be defined as one which has as its basis the same underlying material. Thus, variances between programs accommodating the special nature of ATV or NTSC, such as different aspect ratios, angles, or number of cameras, or commentary would be permitted. We might also define "program" to exclude commercials and promotions and to include primary material such as movies, news, sports, and entertainment shows. We also seek comment on whether "program" should include material of some minimal duration. These proposed definitions for the timing and content of simulcast material would give broadcasters added flexibility and would alleviate concerns that a simulcasting requirement will have a chilling effect on program content or raise First Amendment concerns.

APPENDIX B

FINAL REGULATORY FLEXIBILITY STATEMENT

I. Need and purpose of this action:

1. The Second Report and Order portion of this decision resolves critical issues concerning implementation of Advanced Television (ATV) Service in this country. Our goal is to select the best ATV system and the most effective procedures for implementing that choice, with optimum results for the industries involved and the public, and with minimum negative consequences.

II. Summary of issues raised by the public comments in response to the Initial Regulatory Flexibility Analysis:

2. No comments were received in response to the Initial Regulatory Flexibility Analysis contained in the Notice of Proposed Rule Making (Notice).

III. Significant alternatives considered and rejected:

3. First, we decide, as proposed in the Notice, to limit initial eligibility for ATV channels to existing broadcasters. We find that such a limitation is fully consistent with legal precedent such as Ashbacker Radio Corp. V. FCC. Most of the commenting parties agreed with the Notice that existing broadcasters' continued involvement in ATV is the most practical, expeditious, and non-disruptive way to bring improved service to the American public. Existing broadcasters possess the know-how and experience necessary to implement ATV swiftly and efficiently, have invested considerable resources in the present system and represent a large pool of experienced talent. As initial participants in the transition to ATV, existing broadcasters will be making an appreciable capital investment in this new technology and undertaking the concomitant business risks being in the forefront of such new developments entails. This initial restriction will be for a period of only two years, so that new entrants will not indefinitely be impeded. Further, after the initial ATV allotments and assignments are made, the table of ATV allotments may be expanded through the normal rulemaking process, and those additional channels would be open to all qualified parties. A broadcaster who fails to apply for and construct an ATV facility within the specified time would lose initial eligibility for the assigned channel which would then be open to competing applicants. Finally, we find this eligibility restriction in the long-run to be spectrally efficient.

4. One of the commenters suggests that if stations must ultimately surrender one of their two channels, rather than merely surrendering the NTSC channel, they should be permitted to sell it to recoup the cost of converting to ATV. We decide against this proposal as there are likely to be important competing uses for surrendered spectrum and because permitting such transfers

to a third party would work against spectrum efficiency. Moreover, permitting such transfers makes it impossible to recapture one 6 MHz channel and still leave existing licensees with a broadcast outlet. Finally, we are awarding broadcasters a second channel to permit them to transition to an improved technology. If they choose not to broadcast in ATV, there is no reason to award them an additional license. Several commenters also ask that we accord priority status to low power service and noncommercial stations once initial ATV allotments are made and eligibility is unrestricted. We find no compelling reason to accord any priority during this period. Anyone may apply for the remaining channels on an equal basis.

5. We also elect not to adopt deadlines of three years to apply for, and two years to construct, a new ATV facility or to adopt a sliding scale whereby those applying early will have longer to construct. The record persuades us to allow two years to apply for, and three years to construct an ATV facility. We believe that by establishing such a concrete timetable, implementation of ATV will be accelerated and broadcasters will be encouraged to take the risk of moving into ATV early. We find that our current rules permitting extensions of construction permits should offer adequate relief for such possible delaying factors as litigation, local zoning problems, difficulty in locating a transmitter site, unavailability of equipment, and delays in obtaining government appropriations. We thus conclude that it is unnecessary to undertake additional regulatory initiatives to provide relief in unforeseen or extenuating circumstances.

6. We continue our tradition of considering, in spectrum planning, the important role noncommercial stations play and the financial constraints they face in building and running their stations. We should be able, for the most part, to accommodate existing stations with ATV channels without using vacant spectrum reserved for noncommercial use. We will dereserve vacant noncommercial allotments only when there is no feasible alternative, determined after a case-by-case study, for assigning an ATV channel to an existing broadcaster. We affirm that we will pair an additional ATV channel with existing vacant noncommercial allotments and will leave a vacant allotment without an ATV pair only where careful engineering analysis reveals that an ATV channel is needed for delivery of ATV service by an existing eligible applicant. However, in light of our decision to require all licensees to convert to ATV when ATV becomes the prevalent medium, we do not believe it necessary, as suggested by one party, to use NTSC channels, relinquished in that conversion, as pairs for vacant noncommercial allotments.

7. Some parties ask that we deviate from our policy of continuing LPTV and translator stations' secondary status vis-a-vis full-service stations. We do not agree with the argument that it is impermissible and unfair because the low power service was not established as secondary to ATV stations, but only to certain land mobile service and full-power television broadcast service in existence at that time. The low-power service has had fair notice that it would have to yield to any full-service stations, without exception for the specific mode in which the full-service station transmits. We also will not deviate from established precedent and afford a preference to translators over low power stations or to foreign-language LPTVs. Because of the insufficient ATV spectrum available and because LPTV and translator

stations are secondary to full-service stations, we reject the suggestion that LPTVs and translators be included in the class of broadcasters initially eligible for ATV frequencies, either on a primary or secondary basis, or that we factor in LPTV displacement considerations in making ATV assignments. As the multiple ownership rules do not apply to the low-power service, we will, however, permit low power service station operators to add a second ATV channel where there is sufficient spectrum. In addition, low-power television stations will be free to broadcast in either the ATV or NTSC mode. We also plan to initiate a rulemaking proceeding regarding engineering changes to help mitigate to effects of potential displacement.

8. We decline to terminate Gen. Docket No. 85-172, which proposed further sharing, or reallocation of, UHF channels in eight large urban areas to private land mobile service, because this action could be premature prior to adoption of a final Table of ATV Allotments. We also find that requests for reallocation of certain land mobile channels for television broadcast use are beyond the scope of this proceeding and are more appropriately the subject of a separate petition for rule making.

9. Several parties suggest that we defer a decision on whether broadcasters will be required to "convert" entirely to ATV -- *i.e.*, surrender one 6 MHz reversion channel and broadcast only in ATV on the conversion channel, once ATV becomes the prevalent medium. We concur with the majority of commenters who support such a requirement for several reasons. First, requiring the surrender of the NTSC reversion channel will promote the introduction of ATV and maximize ATV coverage areas. Second, we believe that the benefits to be gained from affording the public a choice between ATV and NTSC programming are offset by the probability that permitting such a choice permanently would inhibit the growth of ATV. Most significantly, there are likely to be competing uses for this spectrum which will have to be addressed. Thus, we put broadcasters on notice that when ATV becomes the prevalent medium, they will be required to surrender their reversion channel and cease broadcasting in NTSC. We will cease issuing new NTSC licenses, including noncommercial NTSC licenses, and will issue new television broadcast licenses for ATV transmission only once we have completed the initial assignment of ATV channels to existing NTSC licensees, *i.e.*, two years after an ATV standard becomes effective.

10. We dismiss the argument that by ceasing to issue noncommercial NTSC license, we are defeating the purpose of pairing, where feasible, ATV channels with vacant noncommercial allotments. That pairing permits noncommercial applicants to continue applying for NTSC/ATV pairs until the point that initial ATV assignments are completed. Once that point is reached, noncommercial applicants will still be able to apply for the ATV channels that were set aside for the former NTSC noncommercial reserve. Additionally, if an existing broadcaster forfeits its initial eligibility for an ATV channel, that broadcaster will subsequently be allowed to apply, along with any other qualified parties, for any available ATV allotment or for an available ATV channel that will enable it to switch directly to an ATV channel at the time of conversion. If it is technically feasible, a broadcaster may also use its

existing NTSC frequency for this purpose. Finally, modification to NTSC facilities will be permitted after adoption of a final Table of Allotments for ATV channels provided they comply with technical criteria for the protection of ATV vacant allotments, applications and assignments.

11. Contrary to the suggestions of some commenting parties who maintain that a decision on a date or triggering event for conversion to ATV should be deferred, we find that use of a firm date will keep administration simple, assure progress toward freeing spectrum on a timely basis and give broadcasters, consumers and manufacturers the benefits of a clearly defined planning horizon. A review of the record persuades us that complete reliance on ATV receiver penetration rates as a triggering event for conversion as suggested in the Notice, would not provide this same clear signal.

12. In the Notice, we sought comment on whether a simulcasting requirement would be a desirable means of protecting existing investment in consumer equipment during the transition to ATV. We conclude that a 100 percent simulcasting requirement is necessary at the earliest appropriate point. We find that a simulcast requirement will help ensure that consumers are not prematurely deprived of the benefits of their existing television receivers and other devices. In addition, we underscore that ATV is not a separate television service and that we intend to reclaim the reversion channel as soon as possible. Requiring simulcasting will help us to do so by minimizing broadcaster and consumer reliance on the ATV channel as a separately programmed service. Further, a simulcast requirement will give added impetus to ATV receiver penetration by eliminating the need for dual-mode receivers capable of receiving both NTSC and ATV, thereby helping to lower the cost of ATV receivers, and so spurring increased penetration.

13. We address the need to ensure that reasonable patent licensing policies are adopted to generate the supply volumes necessary for ATV service to develop. Most parties believe that the winning proponent should employ such reasonable licensing policies. ATV testing procedures, however, already require proponents to submit, prior to testing, a statement that any relevant patents they own would be made available either free of charge or on reasonable nondiscriminatory terms. We believe that these requirements adequately safeguard the consumer and competitive interests in reasonable availability of relevant patents, so far as is possible at this point in time. However, at the point an ATV system is officially selected, we will condition that selection on the proponent's reasonable and nondiscriminatory licensing of relevant patents.

14. The Notice also raised the question of the successful system's compatibility with other transmission forms and media applications. The Advisory Committee and other bodies, including the Electronics Industry Association, Society of Motion Picture and Television Engineers, and the United States Advanced Television Systems Committee, are presently addressing these issues. The Advisory Committee's Planning Subcommittee Working Party 4 plans to initiate a case-by-case analysis of each proponent system's suitability "for cost-effective, optimum quality interoperation with

ernative delivery media and applications..." That group has also recommended the adoption of headers and descriptors which might be useful in achieving compatibility with other applications and other media by permitting different amounts and kinds of data to be used by different applications and media. It is monitoring studies performed by other organizations relevant to this concept, and is planning to conduct its own further studies in this area. Moreover, the Advisory Committee selection process already takes compatibility concerns into account, and interoperability and extensibility are among the ten selection criteria the Advisory Committee will employ. We encourage this work of the Advisory Committee and of the industry, and do not believe it necessary or productive at this stage in the progress of such activities for us to intervene.

APPENDIX C

Commenting Parties in MM Docket No. 87-268 (filed Dec. 20, 1991 unless otherwise indicated)

American Telephone and Telegraph Co. (AT&T)
Association of America's Public Television Stations, Corporation for
Public Broadcasting, and Public Broadcasting Service (collectively
Public Television)
Balcones Broadcasting Limited (Balcones)
Blonder Broadcasting Corp. (Blonder) (Dec. 4, 1991)
Bradenton Broadcast Television Company, Ltd. (Bradenton)
Daniel Brady, Manager, Visualization Group and Matthew Arrott, Senior
Graphics Programmer, Visualization Group, National Center for
Supercomputer Applications (Brady)
Brooks Broadcasting (Brooks)
Brunson Communications, Inc. (Brunson)
Capital Cities/ABC, Inc. (CapCities)
Channel 13 Television, Inc. (Channel 13) (Dec. 17, 1991)
Children's Television Workshop (CTW)
Cohen, Dippell and Everist, P.C., Consulting Engineers (CDE)
Communicasting Corporation (Communicasting)
Community Broadcasters Association (CBA) (Dec. 19, 1991)
COMSAT Video Enterprises, Inc. (COMSAT) (Dec. 19, 1991)
Consumer Electronics Group of the Electronic Industries Association (EIA/CEG)
Gary Demos (DemoGraFX) corrected 12/23/91
Hugh Carter Donahue, Ph.D. (Donahue) (Dec. 18, 1991)
du Treil, Lundin & Rackley, Inc. (dLR)
Francis Dummer Fisher, Visiting Scholar, LBJ School of Public Affairs,
University of Texas at Austin (Fisher) (Dec. 16, 1991)
Fox, Inc. (Fox)
Future Images Today (FIT)
General Instrument Corp. (GIC)
Branko J. Gerovac, Corporate Research and Architecture, Digital Equipment
Corporation (Gerovac)
Golden Orange Broadcasting Co., Inc. (Golden Orange)
Great American Television and Radio Company, Inc. (Great American) (styled as
"Supplemental Comments")
Institute for Alternative Futures (IAF)
Island Broadcasting Co. (Island)
Joint Broadcaster Comments of: National Association of Broadcasters;
Association for Maximum Service Television, Inc.; Association of
Independent Television Stations, Inc.; Public Broadcasting Service;
Capital Cities/ABC, Inc.; National Broadcasting Company, Inc.;
Association of America's Public Television Stations; CBS, Inc.;
Fox, Inc. & Fox Television Stations, Inc.; Network Affiliated Stations
Alliance - ABC Television Network Affiliates Association, CBS
Television Network Affiliates Association, NBC Television Network
Affiliates Association; A.H. Belo Corporation; Allbritton Communications

Group; American Family Broadcast Group, Inc.; Arkansas Television Company; Bahakel Communications, Ltd.; Benedek Broadcasting Corporation; Blade Communications, Inc.; Bonneville International Corporation; Burnham Broadcasting Company, A Limited Partnership; Busse Broadcasting Corporation; Capitol Broadcasting Company, Inc.; Cedar Rapids Television Company; Chronicle Publishing Company; Cosmos Broadcasting Corporation; Cox Communications, Inc.; Diversified Communications; Eagle Communications, Inc.; Encore Communications, Inc. of Syracuse; Eagles Communications, Inc.; Fisher Broadcasting, Inc.; Forum Publishing Company; Gannett Company, Inc.; Gateway Communications, Inc.; Gillett Holdings, Inc.; Gray Communications Systems, Inc.; Great American Television and Radio Company, Inc.; Griffin Television, Inc.; Heritage Media Corporation; HSN Communications, Inc.; Hubbard Broadcasting, Inc.; Independent Broadcasting Company, Jefferson-Pilot Communications Company & Jefferson-Pilot Communications Company of Virginia; Kelly Broadcasting Company; Kelly Television Company; King Broadcasting Company; Koplar Communications, Inc.; Lin Broadcasting Corporation; Love Broadcasting Company; Maine Broadcasting System; Media General Broadcast Group; Meredith Corporation; McGraw-Hill Broadcasting Company, Inc.; Michiana Telecasting Corp.; Midwest Television, Inc.; ML Media Partners, L.P.; Multimedia Broadcasting Co.; Nationwide Communications, Inc., Nepsk, Inc.; The New York Times Company (and its broadcast subsidiaries); Outlet Broadcasting, Inc.; Plains Television Partnership; Pollock/Belz Communications Co., Inc.; Ponce-Nicasio Broadcasting, Ltd.; Post-Newsweek Stations, Inc.; Precht Television Associates, Inc.; The Providence Journal Company; Quincy Newspaper Broadcast Group; Renaissance Communications Corp.; Retlaw Enterprises, Inc.; Rose Communications; Sarkes Tarzian, Inc.; SCI Television, Inc.; Scripps Howard Broadcasting Company; Spartan Radiocasting Co.; Sunbeam Television Corporation; Sunshine Television, Inc.; Taft Broadcasting Partners Limited Partnership; Tribune Broadcasting Company; United Communications Corp.; Vermont ETV, Inc.; W. Russell Withers, Jr., Licensee of KREX-TV, KREZ-TV, KREG-TV, KREY-TV, WDTV and KAVU-TV; WBNS-TV; Westinghouse Broadcasting Company, Inc.; WFRV-TV, Inc.; WGBH Educational Foundation; WKEN Broadcasting Corporation; WPEC/Photo Electronics Corporation; WPHL-TV, Inc.; WPSD-TV; WTHR-TV; WTHR-TV; WTVZ, Inc.; WWOR-TV, Inc.; Young Broadcasting, Inc. (Joint Broadcasters Comments)

Vinod Khosla, General Partner, Kleiner Perkins Caufield & Byers (Khosla)
corrected 12/23/91

Liberty Television, Inc. (Liberty)

Michael N. Liebhold, Manager, Media Architecture Research, Apple Computer
Inc. (Liebhold)

Andrew Lippman, Associate Director, MIT Media Laboratory, Massachusetts
Institute of Technology (Lippman)

Alan K. McAdams, Professor of Managerial Economics, Johnson Graduate School
of Management, Cornell University (McAdams)

Motorola, Inc. (Motorola)

National Cable Television Association, Inc. (NCTA)

National Captioning Institute, Inc. (NCI)

North American Philips Corporation (Philips)

Prof. Kenneth L. Phillips (Phillips) corrected 12/26/91

Polar Broadcasting, Inc. (Polar) (Dec. 19, 1991)
William F. Schreiber, Professor of Electrical Engineering, Emeritus, Research
Laboratory of Electronics, Massachusetts Institute of Technology
(Schreiber) (Dec. 18, 1991)
Richard Jay Solomon, Professor of Electrical Engineering, Research Laboratory
of Electronics, Massachusetts Institute of Technology (Solomon)
Spacelabs, Inc.
David H. Staelin (Staelin) (Dec. 18, 1991)
Telemundo Group, Inc. (Telemundo) corrected Declaration 12/23/91
Third Coast Broadcasting, Inc. (Third Coast) amended 12/23/91
United States Advanced Television Systems Committee (ATSC) (Dec. 19, 1991)
S. Merrill Weiss, Consultant (Weiss)
Westinghouse Broadcasting Company, Inc. (Westinghouse)
Zenith Electronics Corporation (Zenith)

Parties Filing Informal Comments

Kyriacos Antoniadis (filed Dec. 13, 1991)
KHR-TV 14 (filed Dec. 23, 1991)
David Rank (filed Dec. 6, 1991)
B.W. St. Clair (St. Clair) (filed Dec. 26, 1991)
Society of Motion Picture and Television Engineers (SMPTE) (filed Dec. 31,
1991)
E. Hyatt Taylor (filed Dec. 2, 1991)
David L. Tennehouse, Telemedia, Networks & Systems Group, Laboratory for
Computer Science, Massachusetts Institute of Technology
(Tennenhouse) (faxed Dec. 10, 1991)

Parties Filing Reply Comments

(filed Jan. 31, 1992, unless otherwise indicated)

Association for Maximum Service Television, Inc. (MST)
AT&T
CBA (Jan. 21, 1992)
David Sarnoff Research Center, Inc. (Sarnoff) (Jan. 29, 1992)
EIA/ATV Committee
Golden Orange
Island (Jan. 17, 1992)
Land Mobile Communications Council (LMCC)
NCTA (Jan. 21, 1992)
Paramount Stations Group Inc. (Paramount) (filed Jan. 21, 1992)
Polar Broadcasting, Inc.; Polar Broadcasting of Arizona, Inc.; Linda K.
Trumbly; Peninsula Communications, Inc.; Kaleb C. Trumbly; Warren L.
Trumbly; Ted C. Tucker; Gary M. Kenny; Gary M. Kenny & Deborah R. Kenny; Peggy
L. Davis & Deborah R. Kenny (Collecting Polar) (Jan. 21, 1992)
Public Television (Jan. 21, 1992)
St. Clair (filed Jan. 28, 1992)
Scientific-Atlanta (Jan. 21, 1992)
Staff of the Bureau of Economics of the Federal Trade Commission (FTC) (styled
"Comment")

Telemundo (Jan. 21, 1992) (signature page filed Jan. 22, 1992)
Tribune
Zenith

Parties Filing Informal Replies

Fleet Call, Inc. (Fleet Call)
Schreiber (filed Feb. 3, 1992)
Schreiber (Schreiber Further Reply) (filed February 11, 1992)
Richard Solomon and Lee McKnight (Solomon/McKnight) (filed Feb. 3, 1992)

APPENDIX D

Analyses of UHF TV Receiver Interference Immunities Concerning Advanced Television, OET Technical Memorandum, FCC/OET TM88-2 (August 1988)

Charter of PS/WP4 Working Group on Satellite ATV Testing
(formerly the SBCA Working Group on Satellite Testing
of ATV)

EIA Color Television Replacement Cycle Study (April 1985)

Fifth Interim Report of the FCC Advisory Committee on Advanced
Television Service
(March 24, 1992)

*This document contains the following:

Advisory Committee on Advanced Television Planning Subcommittee
Working Party 4 Interim Report (Appendix G)
(December 31, 1991), which in turn contains:

Fifth Interim Report of the Spectrum Utilization and Alternatives
Working Party 3 of the Planning Subcommittee of the Advisory
Committee on Advanced Television Service

Fifth Interim Report of the Working Party 5 on Economic Factors
and Market Penetration of the Planning Subcommittee of the
FCC Advisory Committee on Advanced Television Service

FCC Advisory Committee on Advanced Television Service Systems
Subcommittee Fifth Interim Report (Appendix H)

Implementation Subcommittee Fifth Interim Report to the FCC
Advisory Committee on Advanced Television Service (Appendix I)
(February 1992), which in turn contains:

Report of Working Party 1 of the Implementation Subcommittee
Contribution to the Fifth Interim Report of the Implementation
Subcommittee from Working Party 2 on Transition Scenarios

Fourth Interim Report of the Working Party 5 on Economic Factors
and Market Penetration of the Planning Subcommittee of
the Advisory Committee on Advanced Television Service
(March 4, 1991)

Further Studies on the Availability of Spectrum for Advanced Television, OET
Technical Memorandum, FCC/OET TM89-1 (December 1989)

High Definition Television: Transition Scenario for TV Stations:
A CBS Work-in-Progress
(October 23, 1990 Preliminary Results)

Interim Report: Estimate of Availability of spectrum for Advanced Television
(ATV) in the Existing Terrestrial Broadcast Bands, OET Technical
Memorandum, FCC/OET TM88-1 (August 1988)

Letter to Thomas J. Sugrue, Esq., Acting Assistant Secretary for
Communications and Information, United States Department of Commerce from
Kenneth Robinson, Senior Legal Adviser to the Chairman, Federal
Communications Commission (February 11, 1992)

Letter to Nancy H. Mason, Deputy Undersecretary, Technology Administration,
United States Department of Commerce, from Kenneth Robinson, Senior Legal
Adviser to the Chairman, Federal Communications Commission (February 11,
1992)

Letter to Constance L. Robinson, Esq., Chief, Communications and Finance
Section, Antitrust Division, United States Department of Justice, from
Kenneth Robinson, Senior Legal Adviser to the Chairman, Federal
Communications Commission (February 11, 1992)

Memorandum of Understanding among Federal Communications Commission, Advisory
Committee on Advanced Television, Advanced Television Test Center, and
CableLabs (dated November 14, 1990)

Minutes of the Twelfth Meeting of Systems Subcommittee Working Party 4 (August
29, 1991)

Preliminary Analysis of VHF and UHF Spectrum Scenarios in Part III, Advisory
Committee, Planning Subcommittee Working Party 3, Doc. 0174 (June 1991)

Report of the SMPTE Task Force on Headers/Descriptors (January 3, 1992)

"SMPTE Approves Task Force Report on Headers/Descriptors," Society of Motion
Picture and Television Engineers, Press Release (dated February 7, 1992)

APPENDIX E

Glossary of Terms, Abbreviations and Acronyms

- ACTV -- Advanced Compatible Television. The only Enhanced Definition Television system on the test schedule, proposed by the Advanced Television Research Consortium.
- Advanced Digital High Definition Television -- One of the digital HDTV systems on the test schedule, proposed by the Advanced Television Research Consortium.
- Advanced Television (ATV) -- Any television technology, including High Definition Television and Enhanced Definition Television, that provides improved audio and video quality or enhances the current television broadcast system.
- Advanced Television Evaluation Laboratory (ATEL) -- Organization located in Ottawa, Canada, undertaking the subjective video testing of the proposed ATV systems.
- Advanced Television Test Center (Test Center) -- Organization formed by the Advisory Committee on Advanced Television to conduct broadcast testing of the qualified proposed ATV systems.
- Advisory Committee on Advanced Television Service (Advisory Committee) -- Panel formed by the Federal Communications Commission in 1987 to advise the Agency on the technical and public policy issues concerning Advanced Television. Membership is comprised of industry leaders from diverse sectors, including the broadcast, cable, computer, and manufacturing industries.
- Allocation, Allotment, Assignment -- As a technical matter, spectrum space is "allocated" to a particular service. The allocated channels are then "allotted" to specific geographic areas, and the allotted channels are then "assigned" to a licensee.
- ANSI -- The American National Standards Institute, which establishes patent policy adhered to in the ATV Test Procedures Test Management Plan.
- Aspect Ratio -- The ratio of picture width to picture height.
- ATRC -- The American Television Research Consortium, proponent of the Advanced Compatible Television system and the Advanced Digital High Definition Television system. Membership consists of the David Sarnoff Research Center, North American Philips, Thomson Consumer Electronics, NBC, and Compression Labs.
- ATVA -- The American Television Alliance, proponent of the DigiCipher system and the ATA Progressive System. Membership consists of General Instrument Corporation and the Massachusetts Institute of Technology.
- ATVA Progressive System -- One of the digital HDTV systems on the test schedule, proposed by the American Television Alliance.
- Broadcast Auxiliary Spectrum -- Microwave frequencies allocated for use by television stations to convey their signals on a point-to-point basis from fixed or mobile facilities.
- Cable Television Laboratories, Inc. (CableLabs) -- Organization sponsored by the cable industry, which is conducting tests of the cable-related performance of the proposed ATV systems.

Closed Captioning -- Technology which allows captions to appear on a specially equipped receiver screen at the same time the words are being broadcast, generally used so that dialogue can be followed by deaf viewers.

COHRS -- The Committee for Open High Resolution Systems

Conversion -- The point at which broadcast licensees would cease broadcasting in NTSC and "convert" entirely to ATV programming, i.e., surrender one 6 MHz channel and broadcast only in ATV.

Conversion Channel -- One of the two 6 MHz channels which will be assigned to broadcasters to enable them to transmit in both ATV and NTSC for the interim period prior to conversion to ATV alone.

DBS -- Direct Broadcast Satellites

Decoder Act -- The Television Decoder Circuitry Act of 1990, which requires television receivers with screens 13 inches or larger that are manufactured in or imported into the United States, contain built-in decoder circuitry for closed captioning display, and that the Commission ensure continued closed captioning service.

Descriptor -- A descriptor identifies the technical characteristics of the data in a digital signal.

DigiCipher -- One of the digital HDTV systems on the test schedule, proposed by the American Television Alliance.

Digital Spectrum Compatible HDTV (DSC-HDTV) -- One of the digital HDTV systems on the test schedule, proposed by Zenith and American Telephone and Telegraph.

Downconversion -- Changing a program from the HDTV format to the NTSC format.

Dual Network Rule -- Commission rule (47 CFR § 73.658(g) which prohibits a network from simultaneously operating more than one network of television stations in identical or overlapping geographic areas.

Enhanced Definition Television (EDTV) -- Television systems that provide limited improvements over the current NTSC broadcasting system.

Extensibility -- As defined by the Advisory Committee, a property of a system, format, or standards that allows future improvements in performance or format within a common framework, while retaining partial or complete compatibility among systems that belong to the common framework.

Five Channel Audio -- A system characteristic which provides for a right, center, and left front channel, plus a right and a left rear channel (or surround channel).

Harmonization -- As defined by the Advisory Committee, the coordination of different advanced image standards in an orderly process.

Header -- A sort of digital label which identifies the type of data and type of processing performed on the data that follows.

High Definition Television (HDTV) -- Television systems which aim to offer approximately twice the vertical and horizontal resolution of the existing NTSC receivers and to provide picture quality approaching that of 35 mm film and audio quality equal to that of compact discs.

Interoperability -- As defined by the Advisory Committee, the capability of providing useful and cost-effective interchange of electronic image, audio and associated data: among different signal formats, among different transmission media, among different performance levels.

IS/WP1 -- Working Party 1, Policy and Regulation, of the Advisory Committee's Implementation Subcommittee.

IS/WP2 -- Working Party 2, Transition Scenarios, of the Advisory Committee's Implementation Subcommittee.

Low Power Television (LPTV) -- A broadcast television facility with secondary service status that is authorized to retransmit the programs and signals of a TV broadcast station and that may originate programming and/or operate a subscription service.

Narrow MUSE -- The analog HDTV system on the test schedule, proposed by NHK.

NHK -- The Japan Broadcasting Company, proponent of the Narrow MUSE HDTV system.

NTSC -- The existing broadcasting system, named after the National Television Systems Committee.

PS/WP3 -- Working Party 3, Spectrum Utilization and Alternatives, of the Advisory Committee's Planning Subcommittee.

PS/WP4 -- Working Party 4, Alternative Media Technology and Broadcast Interface, of the Advisory Committee's Planning Subcommittee.

PS/WP5 -- Working Party 5, Economic Factors and Market Penetration, of the Advisory Committee's Planning Subcommittee.

Reversion Channel -- One of the two 6 MHz channels assigned to broadcasters during the transition to ATV. This channel will be reclaimed by the Commission after full conversion to ATV.

SBCA -- Satellite Broadcasting and Communications Association.

Scalability -- As defined by the Advisory Committee, the degree to which video and image formats can be combined in systematic proportions for distribution over communications channels for varying capacities.

Studio-Transmitter Link (STL) -- A type of broadcast auxiliary channel used for transmissions between a television station's studio and the station's transmitter.

Terrestrial Broadcast Station -- Broadcast stations which transmit from a tower located on the surface of the earth as opposed to a satellite system with a space station.

Translator -- A low-power TV station which does not originate programming and acts only to retransmit the signals of a full-service tv station.

Upconversion -- Changing a program from NTSC to HDTV format.

Vertical Blanking Interval -- That portion of the TV signal that appears as a black bar when the picture rolls. The Commission's Rules currently provide that closed captioning of NTSC programs for the deaf may be transmitted on line 21 of the vertical blanking interval.

April 9, 1992

**STATEMENT OF
COMMISSIONER ERVIN S. DUGGAN**

**In the Matter of Advanced Television Systems and Their Impact
Upon the Existing Television Broadcast Service
(MM Docket No. 87-268)**

Seventeen days ago my colleagues and I travelled to the Capitol to see the first live, over-the-air and cable-delivered glimpse of HDTV. Today we take another significant step toward the actual inauguration of HDTV in the United States beginning in this decade. With these events, we establish Spring 1992 as the time when high-definition television moved out of the realm of theory and into the here and now.

Today we begin to outline a vision for the transition to HDTV broadcasting. In June, we will propose a Table of Channel Allotments for HDTV spectrum. Next year, we will select the standard for this new television system. These decisions are not just significant: they are fateful. We are, in essence, decreeing the creation of a whole new broadcast television industry and the shutting down of the old one. We do not do so lightly. I believe all of us realize that the move from conventional to advanced television will be expensive, difficult and time-consuming; that full conversion to advanced television roadcasting is likely to take more than a decade.